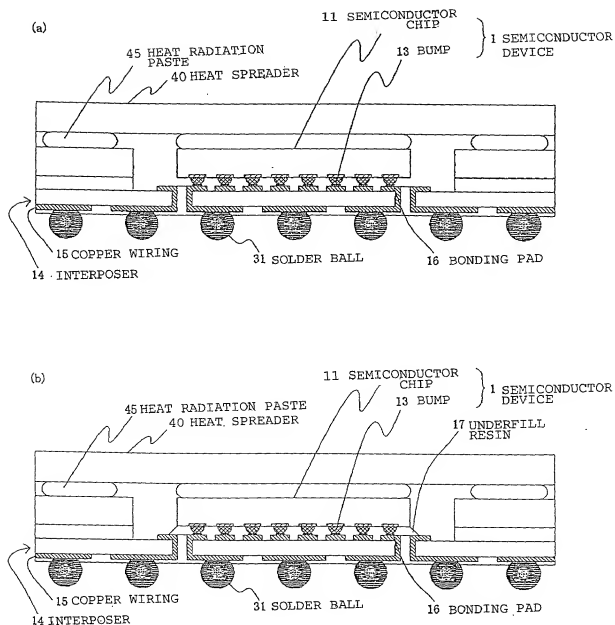


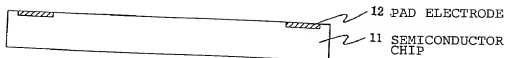
Fig. 1 Prior Art



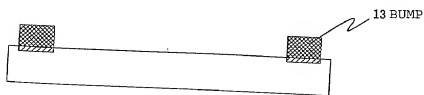
100370-8026-800

Fig. 2 Prior Art

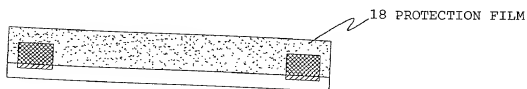
(a)



(b)



(c)

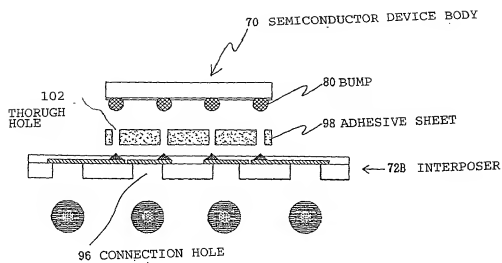


(d)



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Fig. 3 Prior Art



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12 PAD ELECTRODE

11 SEMICONDUCTOR CHIP

FIG. 1 is a perspective view of a semiconductor chip 11. The chip has a rectangular shape. On the top surface, there are two circular features: a "PAD ELECTRODE" 12 on the left and an "AU BALL BUMP" 21 on the right. The chip is shown at an angle, revealing its top and side surfaces.

A cross-sectional view of a semiconductor chip assembly. The assembly consists of a semiconductor chip (11) at the base, which has two pad electrodes (12) on its top surface. An adhesive layer (22) is applied over the chip, containing two Au ball bumps (21) that are positioned to contact the pad electrodes (12).

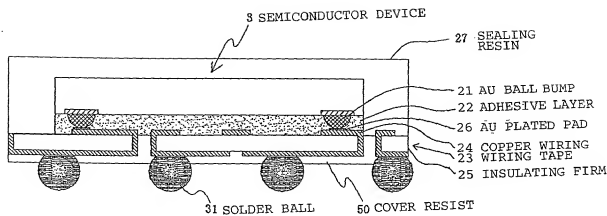
22 ADHESIVE LAYER
21 AU BALL BUMP
12 PAD ELECTRODE
11 SEMICONDUCTOR CHIP

This diagram shows a cross-section of a semiconductor chip assembly. A rectangular semiconductor chip (11) is positioned at the bottom. On its top surface, there are two circular pad electrodes (12). Each pad electrode is connected to a larger, textured circular area representing an Au ball bump (21). Above the Au ball bumps, there is a thin, uniform layer of adhesive (22) that covers the top surface of the chip and the bumps.

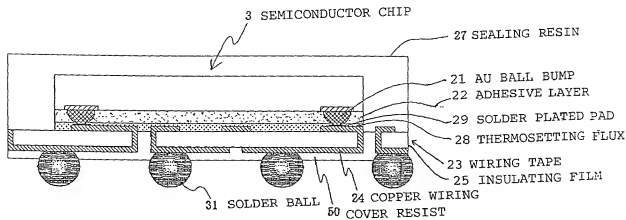
3 SEMICONDUCTOR DEVICE

Fig. 5

(a)



(b)



09020298.042701

Fig. 6

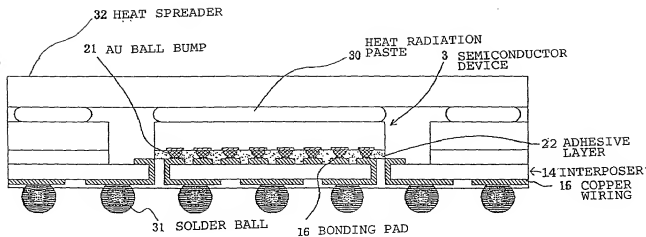
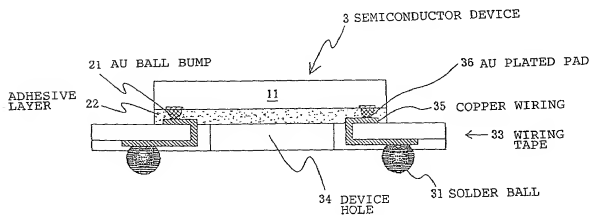
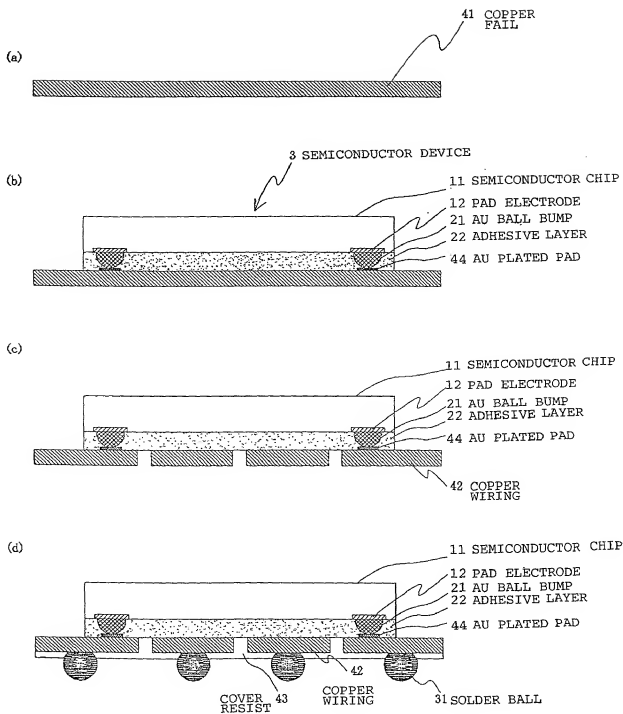


Fig. 7



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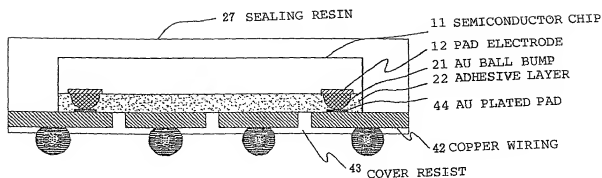
Fig. 8



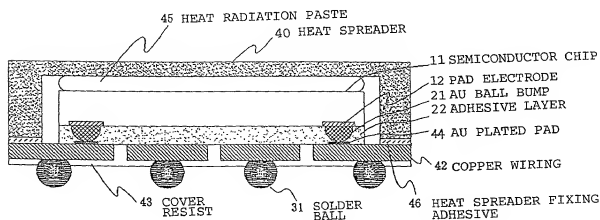
09839298-042301

Fig. 9

(a)



(b)



0939298 012380

Fig. 10

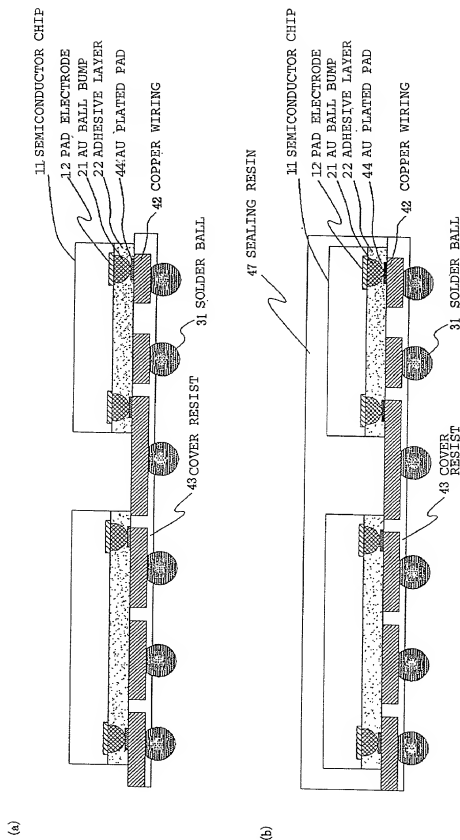


Fig. 11

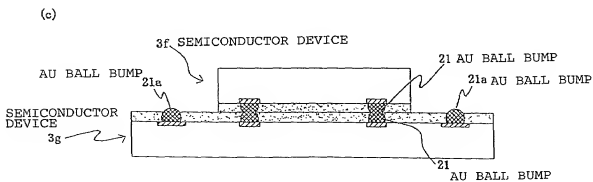
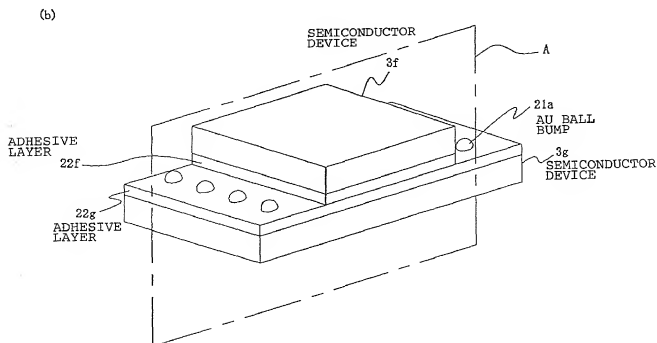
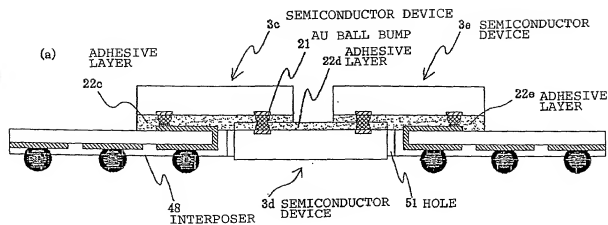


Fig. 12

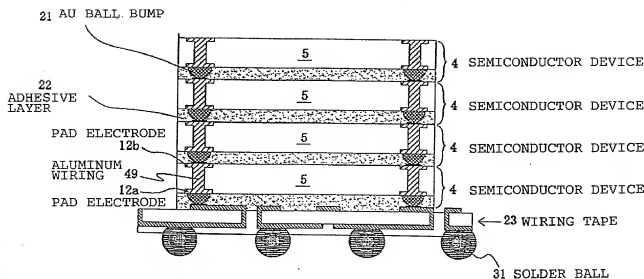
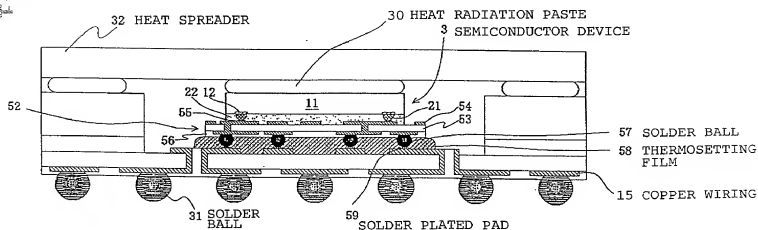


Fig. 13



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